

Remarks

By the foregoing Amendment, claims 1 and 13 are amended, claim 5 is cancelled, and new claims 14-19 are presented. No new matter is added by this Amendment. Entry of the Amendment, and favorable consideration thereof, is earnestly requested.

The Examiner has rejected independent claims 1 and 13 under 35 U.S.C. §102(b) as anticipated by Chen et al, U.S. Patent No. 5,776,050. Claim 1 has been amended to incorporate the limitation previously found in original claim 5, and claim 5 has been cancelled. Applicant respectfully requests reconsideration of this rejection in light of the foregoing amendment and the below remarks.

Chen does not anticipate claim 1, as amended, because all of the elements in claim 1 are not shown in this reference. Specifically, Chen does not disclose mapping the image onto a “virtual surface [that] is an approximation of said viewed surface.”

Chen discloses a first software object that is a 3-D model of the anatomy being viewed, but actually maps the endoscopic image onto a second software object. This second software object is a planar disk arranged at the virtual focal plane of the virtual endoscope. This is very different from the claimed invention. Claim 1, as amended, recites that the surface onto which the image is mapped is an approximation of the actual viewed surface. Chen, on the other hand, does not map the image onto the first

software object (i.e., the 3-D model of anatomy), but rather, maps the image onto the second software object (which is not utilized by the presently claimed invention).

This difference is significant. For example, this difference would be very noticeable in cases where the virtual viewpoint does not lie along the endoscope shaft. The Chen system would display a rendered image similar to that shown in Figure 4 of the Chen reference. Here, the image at the focal plane of the endoscope is seen “floating” near the viewed objects. The presently claimed invention, on the other hand, would present the image as a direct coating on the surface of the objects, as is illustrated in Figures 4B-D of the present application. (It should be noted that these drawings only depict the mapped portion of the viewed object surface). Accordingly, the claimed invention allows for an object to be viewed with its correct optical characteristics from a viewpoint not on the endoscope. The resulting rendered image of the Chen technique would be much less effective for the user.

Moreover, Applicant respectfully notes that the invention is also not obvious over Chen, for several reasons. First, to be obvious, there must be some suggestion or motivation in the reference to make the relevant modification. See, e.g., MPEP 2143.01 (“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.”); *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (fact that prior art “may be capable of being modified to run the way the apparatus is claimed, there must be some suggestion or motivation in the reference to do so.”). In

Chen, there is simply no suggestion that it would be desirable to modify the described device in order to arrive at the invention of claim 1, as amended. Therefore, the invention is not obvious over this reference because, without the present application in front of them, one skilled in the art would have no motivation to modify the Chen system in order to arrive at the claimed invention. *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991) (suggestion to combine must be found in the prior art, not the applicant's disclosure).

Additionally, Chen specifically teaches against making the modification necessary to arrive at the invention recited in claim 1, as Chen—unlike the present invention—teaches to use the second software object, which is a planar disk arranged at the virtual focal plane of the virtual endoscope. Chen specifically teaches to map the image onto this second software object, as opposed to a three-dimensional representation of the viewed object (such as Chen's first software object).

For the same reasons, Chen also does not anticipate or render obvious claim 13, as amended.

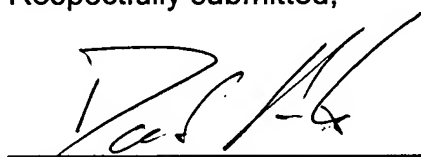
Additionally, Applicants have presented new independent claim 14 (and dependent claims 15-19). Chen also does not does not anticipate claim 14, because all of the elements this claim are also not shown in this reference. Specifically, Chen does not disclose, in addition to the above, determining first and second viewing sets representing the positions of a scope and another position (such as that of a user)

relative to the viewed surface (i.e., anatomical object), and rendering a new image based on the virtual surface representing the actual surface and this second viewing set. Accordingly, the Chen reference also does not anticipate these claims.

It is respectfully submitted that claims 1-4 and 6-19, all of the claims remaining in the application, are in order for allowance, and early notice to that effect is respectfully requested.

Respectfully submitted,

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